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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/035,025	12/28/2001	Vladimir V. Protopopov	10544/169	9200

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EXAMINER
KEANEY, ELIZABETH MARIE

ART UNIT	PAPER NUMBER
2882	

DATE MAILED: 08/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/035,025	PROTOPOPOV, VLADIMIR V.	
	Examiner	Art Unit	
	Elizabeth Gemmell	2882	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *8 May 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17 and 19-25* is/are rejected.

7)☒ Claim(s) *18* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Receipt is acknowledged of the Response filled 8 May 2003.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-17 and 19-25 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-24 of copending Application No. 09/797,498. Although the conflicting claims are not identical, they are not patentably distinct from each other because one skilled in the art would recognize that a Fabry-Perot analyzer receives a first and section portion of a beam of radiation and suppresses the intensity of the first portion of the beam and transmits the second portion of the beam. Therefore, a Fabry-Perot analyzer anticipates the analyzer as claimed in claim 1. Accordingly, it would have been obvious to one of ordinary skill in the art to claim the Fabry-Perot analyzer more broadly as just an analyzer.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-5,14 and 19-22 remain rejected under 35 U.S.C. 102(b) as being anticipated by Chapman et al. (US Patent 5,987,095; hereinafter Chapman).

Re claims 1 and 9: Chapman discloses, in figure 1 and throughout the disclosure, an imaging system comprising:

- a radiation generator that generates a beam of radiation along a first direction (16);
- an object (25) that receives the beam of radiation, wherein a first portion of the beam of radiation is transmitted through the object along a first direction (absolute absorption beam) and a second portion of the beam of radiation is refracted along a second direction (diffracted beam);
- an analyzer (30) that receives the first and second portions of the beam of radiation, the analyzer suppresses the intensity of the first portion of the

beam of radiation and transmits the second portion of the beam of radiation (Bragg or Laue type crystal analyzer);

- a detector system (40) that receives from the analyzer the suppressed first portion of the beam of radiation and the transmitted second portion of the beam of radiation and generates an image of the object.

Re claims 2-4,14 and 20-22: Chapman discloses a beam of x-ray radiation, wherein the beam radiates a parallel beam of radiation operating in a point projection mode (column 3, lines 11+).

Re claim 5: Chapman discloses, in figure 1 and throughout the disclosure, the use of a monochromator (11).

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 6,7,15-17,23,24 and 25 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Chapman.

Re claim 6: Chapman shows all the limitations as shown above.

However, Chapman fails to disclose the x-ray source working in linear projection mode.

The applicant fails to disclose any criticality for an x-ray source to work in a linear projection mode. Therefore, it would have been obvious to one of ordinary skill in the art to substitute an x-ray source working in a linear projection mode for an x-ray source working in the point projection mode because the type of source used in a system depends on the desired set-up and outcome of the system.

Re claim 7: Chapman shows all the limitations as shown above.

However, Chapman fails to disclose the object being smaller than the beam of radiation.

One of ordinary skill in the art at the time the invention was made would have been motivated to combine the system disclosed by Chapman with a beam of radiation larger than the object, because by using a larger beam, only one scan is necessary to produce an entire image of the object. Therefore, the amount of extraneous radiation the object is subjected to is reduced.

Re claim 15: Chapman discloses the object moving relative to the detector system (column 5, lines 3+).

Re claim 16: Chapman discloses a detector comprising a column of sensitive elements (column 4, lines 58+).

Re claims 17 and 25: Chapman discloses signals from the column sensitive elements are averaged to obtain an image signal (column 5, lines 27+).

Re claim 23: Chapman discloses the object does not move during the generating of the image (column 5, lines 11+).

Re claim 24: Chapman discloses all the limitations as shown above.

However, Chapman fails to disclose the object moving during the generation of the image.

One of ordinary skill in the art at the time the invention was made would have recognized the method of moving the object during the generation of the image as a well known method of imaging in the art and therefore the limitation of moving the object during the generation of the image is absent of showing any criticality.

Claims 8-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chapman in view of Seely et al (US Patent 5,307,395; hereinafter Seely).

Chapman fails to disclose the analyzer mirror comprising alternating layers of materials of tungsten and boron-carbon wherein the thickness of the alternating layers are varied so as to suppress the intensity of the first portion of the x-ray beam.

Seely discloses, in figure 6 and throughout the discloser, a multilayer mirror analyzer comprising alternating layers of materials (160 and 150) of tungsten and boron-carbon (column 4, lines 65+) wherein the thickness of the alternating layers are

varied so as to suppress the intensity of the first portion of the x-ray beam (column 5, lines 18+).

One of ordinary skill in the art at the time the invention was made would have been motivated to combine the system disclosed by Chapman with that of Seely because high intensity radiation is better reflected and the amount of damage to the mirror is reduced.

Allowable Subject Matter

Claim 18 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The best prior art of record fail to disclose the equation disclosed in the instant claim for generating the image.

Response to Arguments

Applicant's arguments filed 8 May 2003 have been fully considered but they are not persuasive.

The Applicant has argued that the analyzer disclosed by Chapman does not suppress a portion of the beam transmitted through an object.

The Examiner respectfully disagrees. Column 2, lines 53, discloses the use of a Bragg or Laue type crystal. An inherent property of a Bragg or Laue type crystal is to suppress the refracted beams that are detected. Therefore, Chapman does indeed disclose an analyzer in which a portion of the beam transmitted through an object is suppressed.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth Gemmell whose telephone number is (703) 305-1937. The examiner can normally be reached on Monday-Thursday 6:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on (703) 308-4858. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

EMG

emg
August 19, 2003

Craig E Church

Craig E. Church
Primary Examiner